

**Title VI Equity Analysis – Statement of Findings****Designing Better Bus Service in Durham – Final Plan**

June 18, 2012

**Purpose**

Triangle Transit is required by FTA guidelines to perform a Title VI Equity Analysis to determine the impact of the service changes on low income and minority populations. We are conducting this analysis on the major service change proposals included as part of Designing Better Bus Service in Durham. We are completing the analysis on the Scenario 1 recommendations only because the funding is available for these route changes. Once funding becomes available for the Scenario 2 & 3 routes, an additional Title VI Equity Analysis will be completed. The results of this analysis will be used to inform decision makers about the impacts of the proposed changes on minority and low income populations.

**Summary of Analysis**

The analysis includes twelve (12) tests to determine whether there was a disparate impact to minority and low income populations. Four (4) of the tests identify a disparate impact. The tests involve looking at the system-wide impacts of the route additions and eliminations, frequency increases and decreases, and span of service increases and decreases on the low income and minority populations.

For each of the four tests that were identified as having a disparate impact, we looked at the route segments within that type of service change that were located in minority or low income areas. As specified in the FTA guidelines, we provide a discussion on the travel alternatives available to individuals in these areas and the steps that the agency is taking to mitigate and minimize the negative impacts. In conclusion, we provide a discussion on the rationale for making the service change despite the disparate impact to these populations. The FTA specifies that a service change can be implemented if it meets a substantial need that is in the public interest and the alternatives would have a more severe adverse effect than the preferred alternative.

The results of the analysis are provided in the report.

**Recommendation**

We recommend that the City Council receive this Title VI Equity Analysis as a supporting document accompanying the Designing Better Bus Service in Durham proposed route changes.

## **Overview**

The Durham Area Transit Authority (DATA) is managed by Triangle Transit for the City of Durham. Triangle Transit has worked with the City of Durham and a consultant to develop recommendations for DATA service changes as described in the Designing Better Bus Service in Durham – Final Plan. The City of Durham receives funding from the Federal Transit Administration (FTA) for the operation of the DATA bus service and must comply with the FTA Title VI Guidelines (FTA Circular 4702.1A V2). The guidelines require that when implementing a “major service change”, the City of Durham must conduct an analysis to evaluate whether there would be disparate impacts on minority or low-income populations. This document is a statement of findings of this analysis.

As described in Option A of the FTA Circular, Triangle Transit will “use a combination of on-board customer survey data, ridership counts, and Census-derived demographic data to assess the effects of the proposed fare or service change on minority and low-income populations.” This analysis will describe the alternatives available and any mitigation strategies being developed by Triangle Transit for the City of Durham.

For reference, the FTA defines minorities as including the following individuals: American Indian, Asian, African American, Hispanic, and Native Hawaiian (FTA Circular 4702.1A).

The 2010 Census provides information on the number of households per block group that are under the poverty level. This is the data source that we are using in this analysis.

## **The Designing Better Bus Service Recommendations**

The recommendations for route changes included in the Designing Better Bus Service (DBBS) in Durham Final Plan have service change recommendations for every route in the DATA system. DBBS is a comprehensive operational analysis of the DATA route system to identify ways to improve the on-time performance of the routes and to better meet the needs of the City of Durham residents and DATA customers. While the recommendations affect every route in the system, there are few segments where changes to the routing, frequency, and span of service occur.

The DBBS Final Plan includes recommendations for three funding scenarios. Only the first scenario, the base scenario, is currently funded. The service changes recommended in scenario 1 will be implemented shortly after the DBBS Final Plan is adopted by the Durham City Council. This Title VI Equity Analysis will evaluate only the scenario 1 service change recommendations. Once funding for the other two scenarios is identified, an additional analysis will be completed.

## **Qualification as a Major Service Change**

In October 2010, Triangle Transit entered into an agreement with the City of Durham to manage the Durham Area Transit Authority (DATA). The Durham City Council adopted the “Durham Transit Service Change Approval Process” that identifies the appropriate decision-making body for each category of service change once a service change recommendation has been developed. It also defines what constitutes a “major service change.”

*A major service change is “defined as any fare change or as a service change that would affect at least 25% of the system-wide passenger boardings or reduce or effect at least 25% of the system-wide route miles or reduce or effect at least 25% of the system-wide hours of revenue service.”*

The following chart shows that the DBBS recommendations are considered a “major service change” and the Title VI analysis will be completed for the system-wide change recommendations.

**Table 1: Determination of Major Service Change**

	<b>Is this a major service change based on this criterion?</b>
Any fare change	No
Affects at least 25% of the system-wide passenger boardings	Yes
Reduces or affects at least 25% of the system-wide route miles	Yes
Affects at least 25% of the system-wide hours of revenue service	Yes

### **Impacts to low-income and minority populations**

The service changes recommendations include reducing service in some areas and increasing service to others. This analysis looks at where these service changes are located to identify the affected populations. The analysis looks at changes to the routing, frequency, and span of service to see whether the service change recommendation constitute a “disparate impact” to low income and minority populations. The following chart defines a “disparate impact” to the low income and minority populations:

**Table 2: Definition of “Disparate Impact” for the Types of Service Changes being analyzed**

<b>Type of service change</b>	<b>What is a “disparate impact” to minority and low income populations?</b>
<b>Added route segments</b>	When minority/low-income areas do not benefit from the added route segments. When the percentage of minority/low-income population in the added route segments is below the service area average.
<b>Eliminated route segments</b>	When the eliminated route segments occur in areas that more minority/low income persons. When the percentage of minority/low income persons in the eliminated route segments is greater than the entire service area.
<b>Increase frequency (i.e. service offered more often)</b>	When minority/low-income areas do not benefit from increased frequency. When the percentage of minority/low-income population in the block groups where the increased frequency will occur is below the service area average.
<b>Decrease frequency (i.e. service offered less often)</b>	When decreased frequencies occur in areas that have a higher minority/low-income population compared to the service area.
<b>Increase span of service (i.e. service operated for a longer period of time)</b>	When minority/low income areas do not benefit from the increase in service span. When the percentage of minority/low-income population in the block groups where the increase in service span will occur is below the service area average.

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<b>Decrease span of service (i.e. service operated for a shorter period of time)</b>	When the decreased span of service occurs in areas that have a higher minority/low-income compared to the service area.
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### DATA Service Area

We define the DATA service area as the block groups that have area within a quarter mile of the current DATA system. A quarter mile is a reasonable distance to expect people to walk to a bus route.

This analysis uses the 2010 census data for the number of households under the poverty level for each block group as defined by the Census Bureau. This analysis uses the 2010 census data on the minority population for the block group.

In the DATA service area, 55% of the population is minority and 17.7% of household are under the poverty level (low income). In Durham County, 53% of the population is minority and 16.7% of household are under the poverty level.

The DATA on-board survey that was completed in April 2011 shows that there is a higher percentage of minority and low income individuals that ride DATA compared to the block groups that the DATA routes serve. While the area served by DATA has a minority population of 55%, 89% of people riding DATA are minorities. While 17.7% of the households within the DATA service area are under the poverty level, 57% of the individuals riding DATA earn less than \$15,000 and are considered low income.

**Table 3: Demographics of DATA Ridership from On-Board Survey in April 2011**

Route	% minority	% Low income	Route	% minority	% Low income
<b>1</b>	88%	61%	<b>11</b>	86%	62%
<b>2</b>	94%	68%	<b>12</b>	90%	59%
<b>3</b>	89%	50%	<b>13</b>	97%	70%
<b>4</b>	88%	55%	<b>15</b>	88%	27%
<b>5</b>	93%	52%	<b>16</b>	95%	52%
<b>6</b>	85%	58%	<b>17</b>	91%	51%
<b>7</b>	91%	54%	<b>Average</b>	<b>90%</b>	<b>57%</b>
<b>8</b>	93%	59%			
<b>9</b>	95%	59%			
<b>10</b>	84%	57%			

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The route demographics do not vary considerably. For this reason, we will use the census data to evaluate the impacts of the service changes. This will allow us to evaluate the impact to the total population rather than the current ridership.

**Maps**

The following maps illustrate the six different types of recommended route changes in relation to the minority population and low income households within the DATA service area. The highlighted block groups show the areas where the percentage of low income households and minority population is greater than the DATA service area average.

Figure 1: Current DATA system with a higher percentage of households under the poverty level

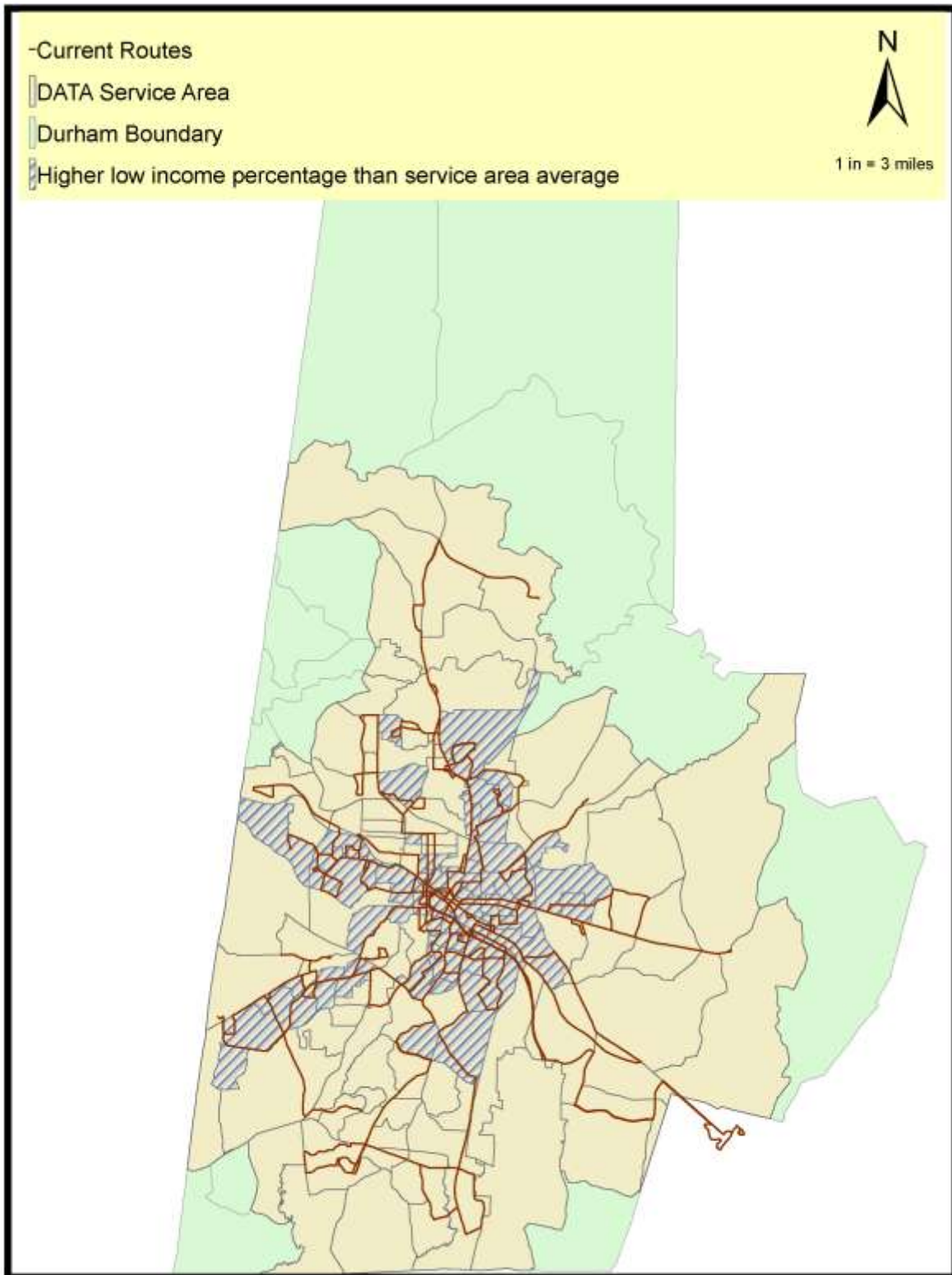


Figure 2: Current DATA system with a higher percentage of minorities

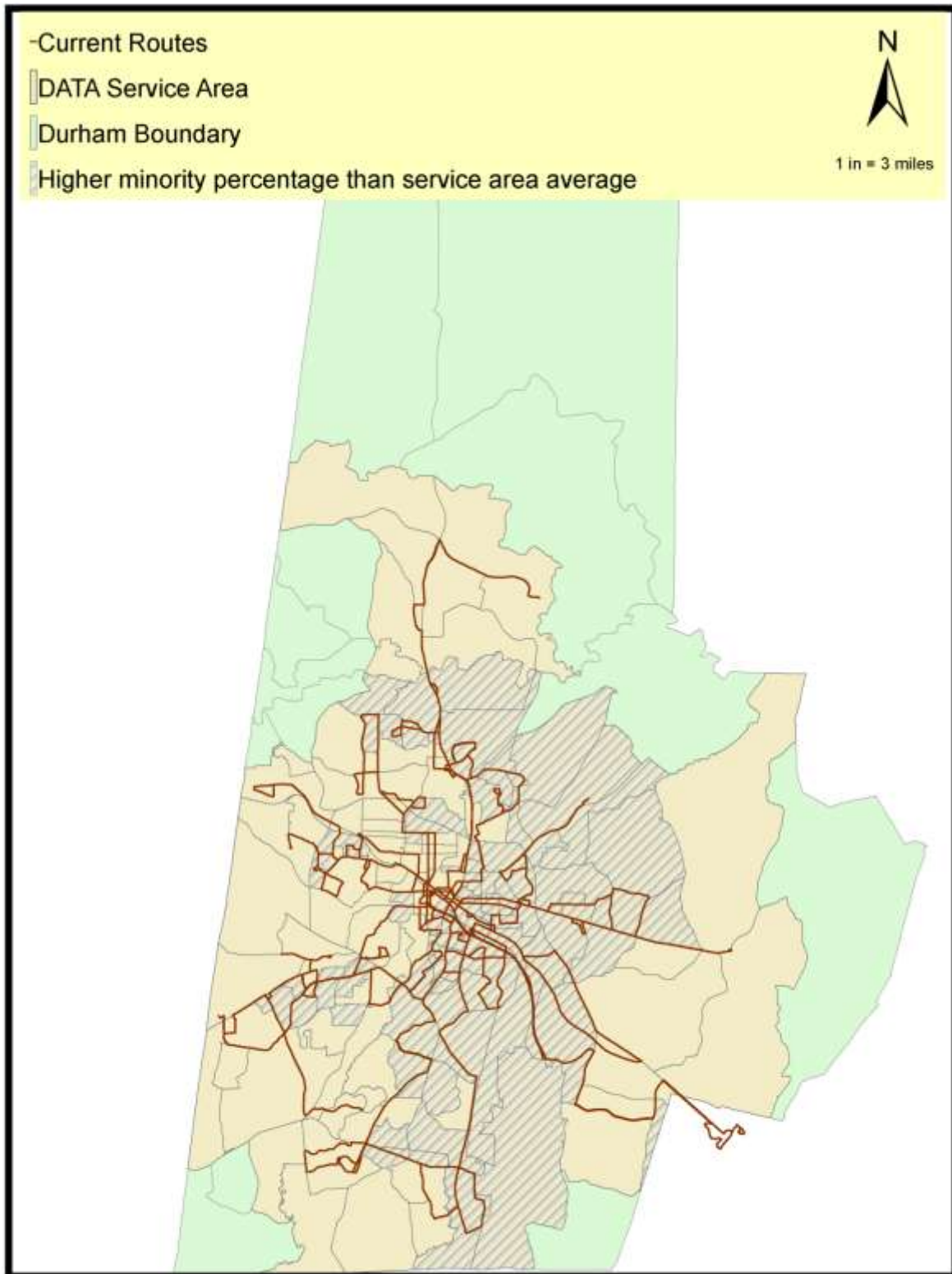


Figure 3: Proposed DATA system with a higher percentage of households under the poverty level

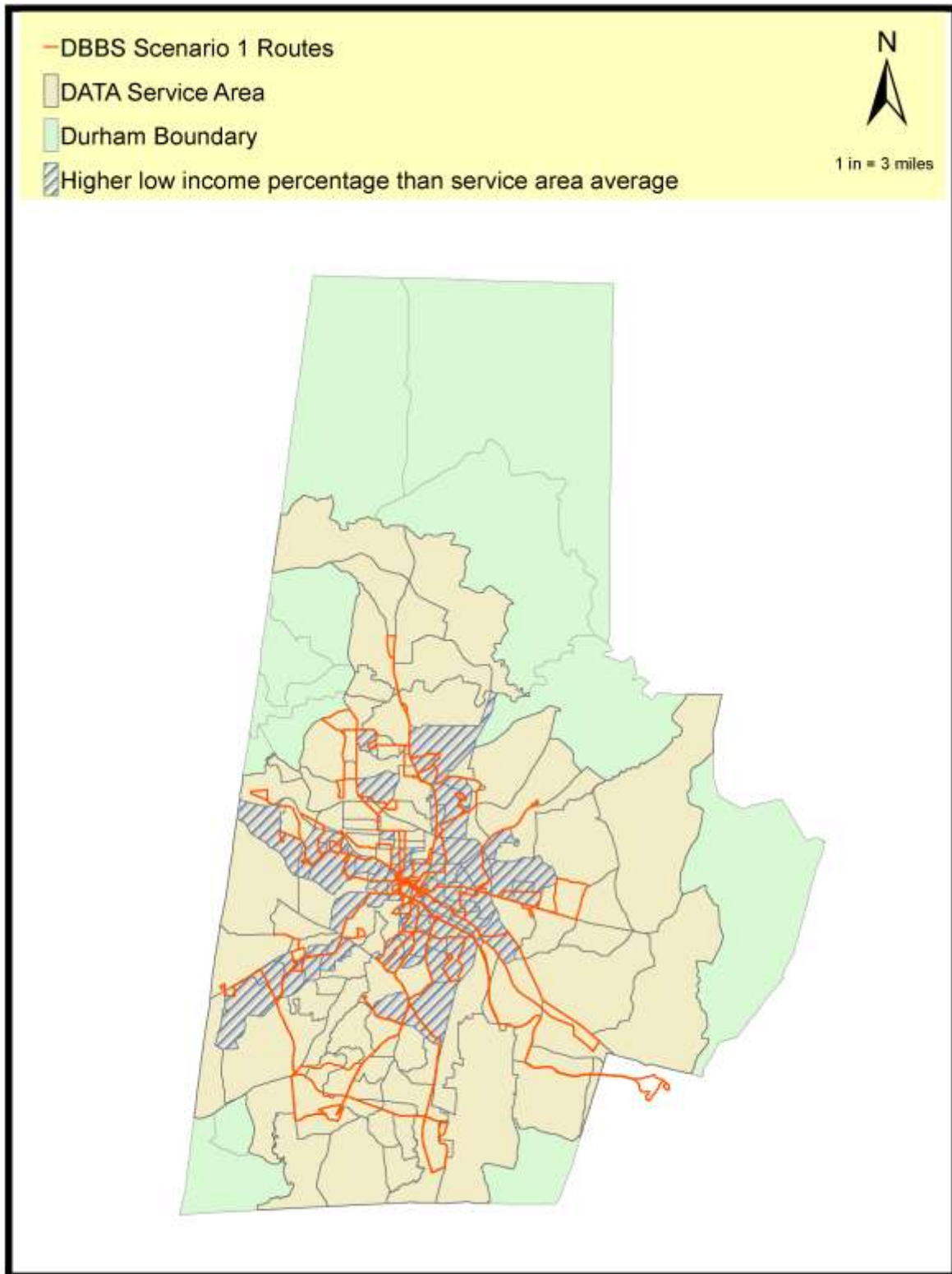




Figure 4: Proposed DATA system with a higher percentage of minorities

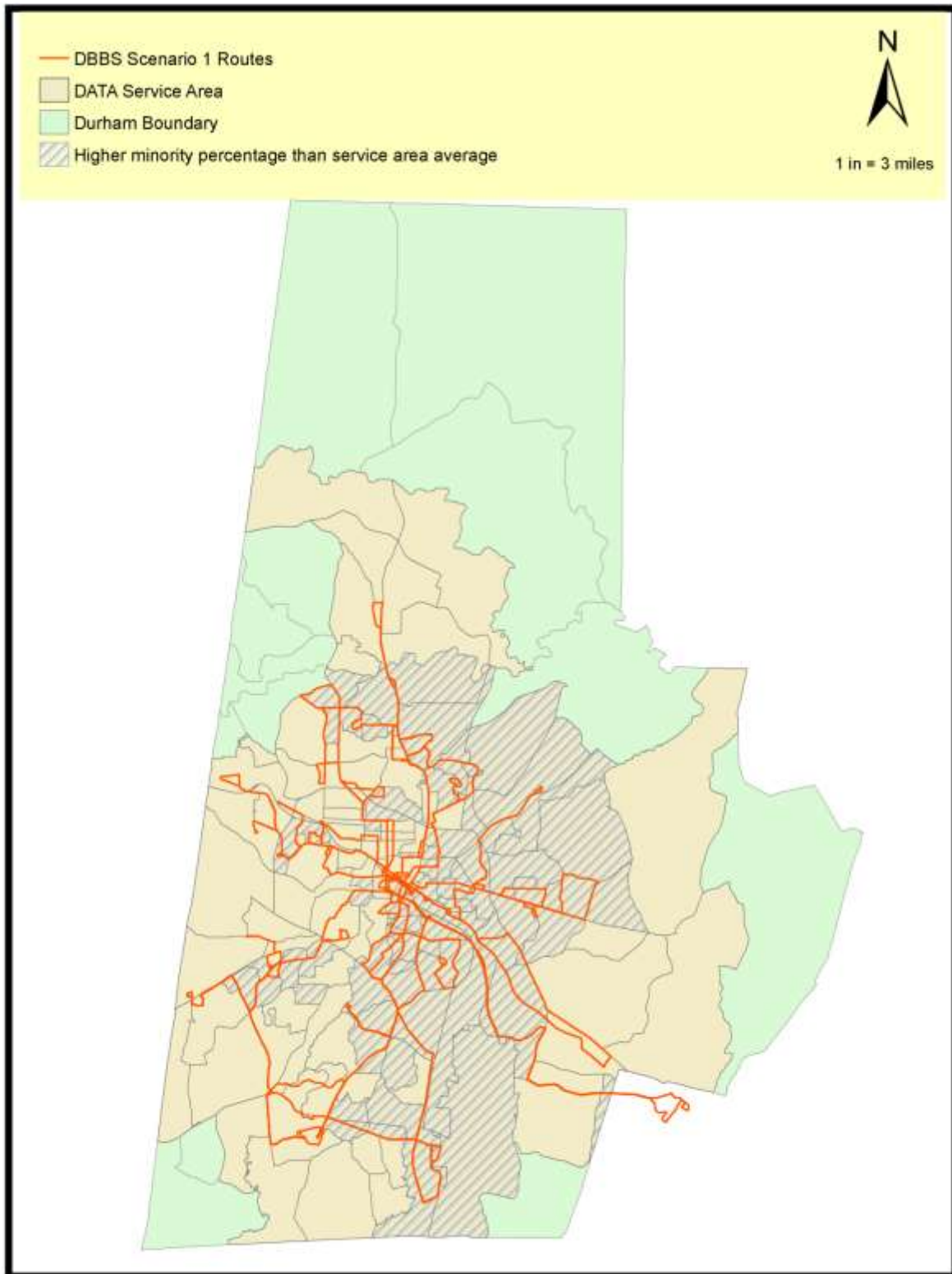


Figure 5: Added route segments with a higher percentage of households under the poverty level

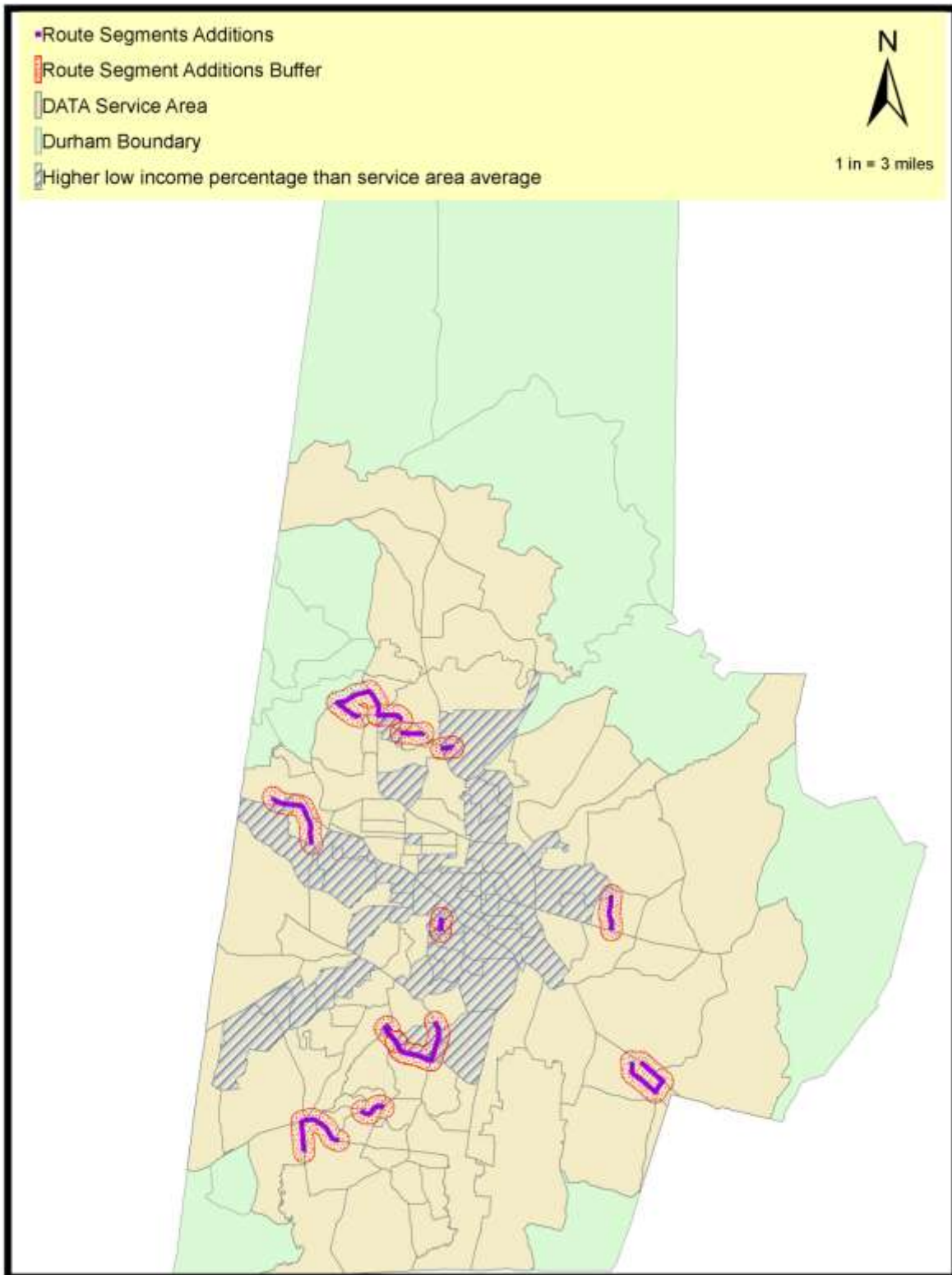


Figure 6: Added route segments with a higher percentage of minorities

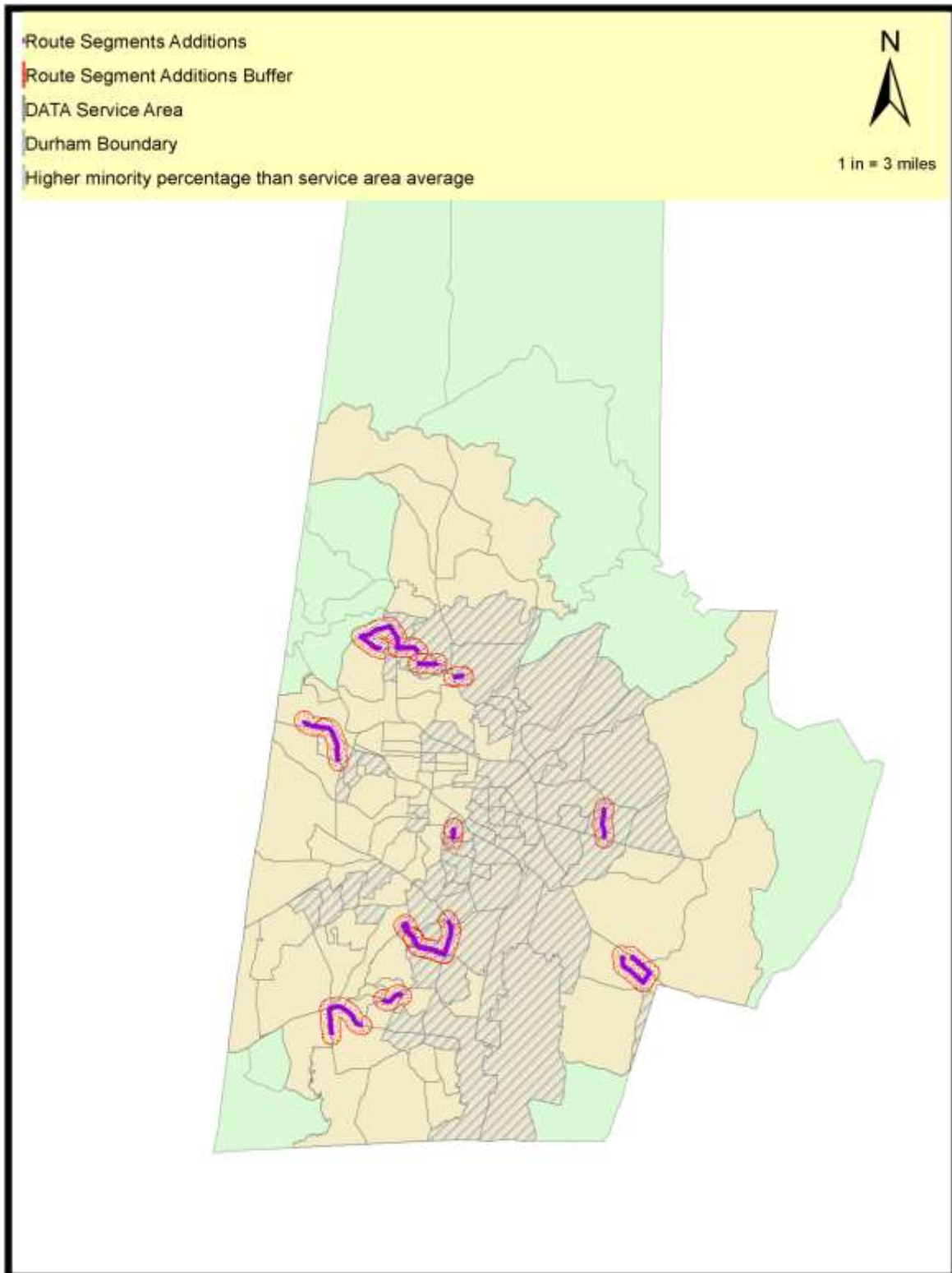


Figure 7: Eliminated route segments with a higher percentage of households under the poverty level

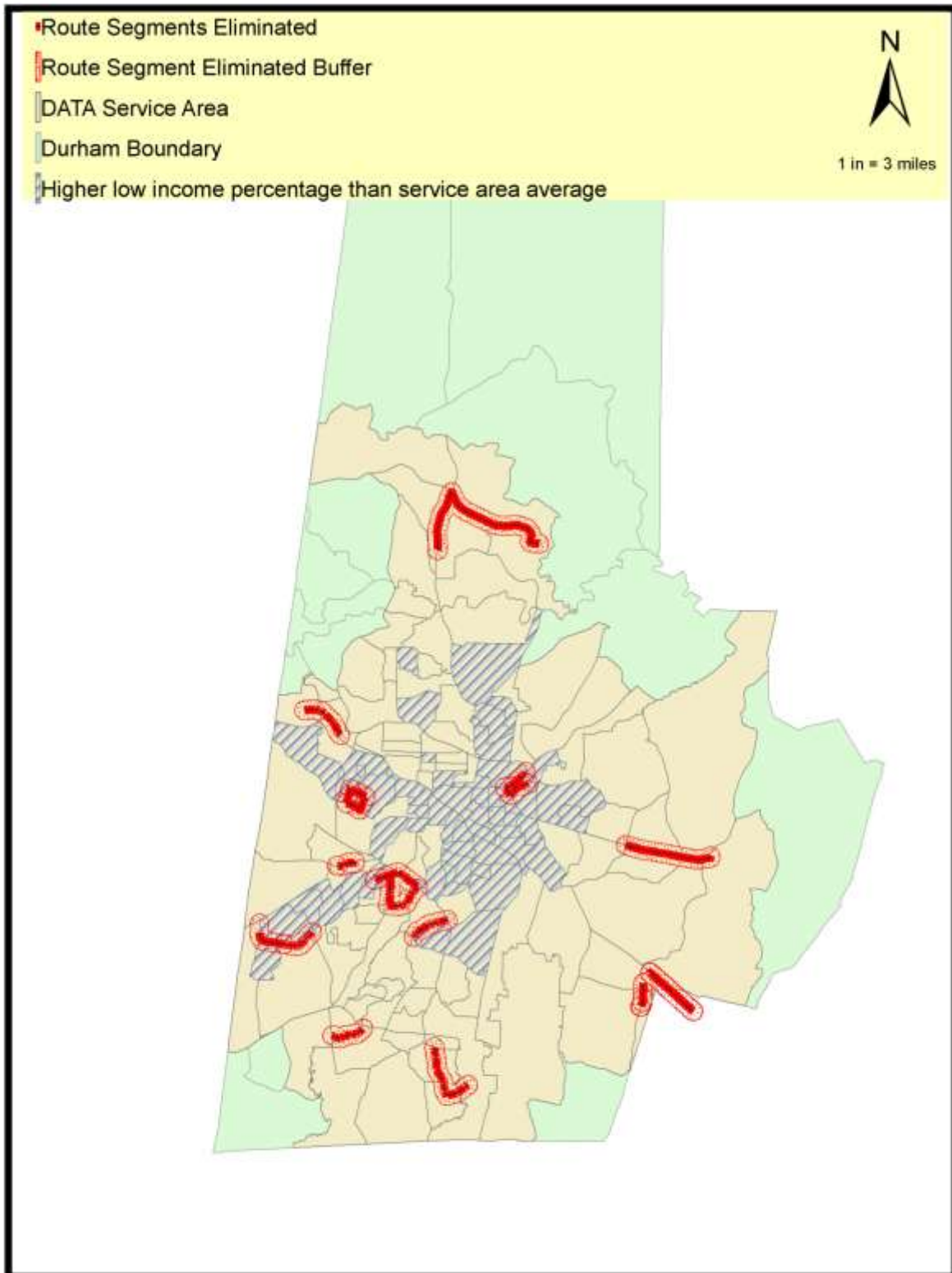


Figure 8: Eliminated route segments with a higher percentage of minorities

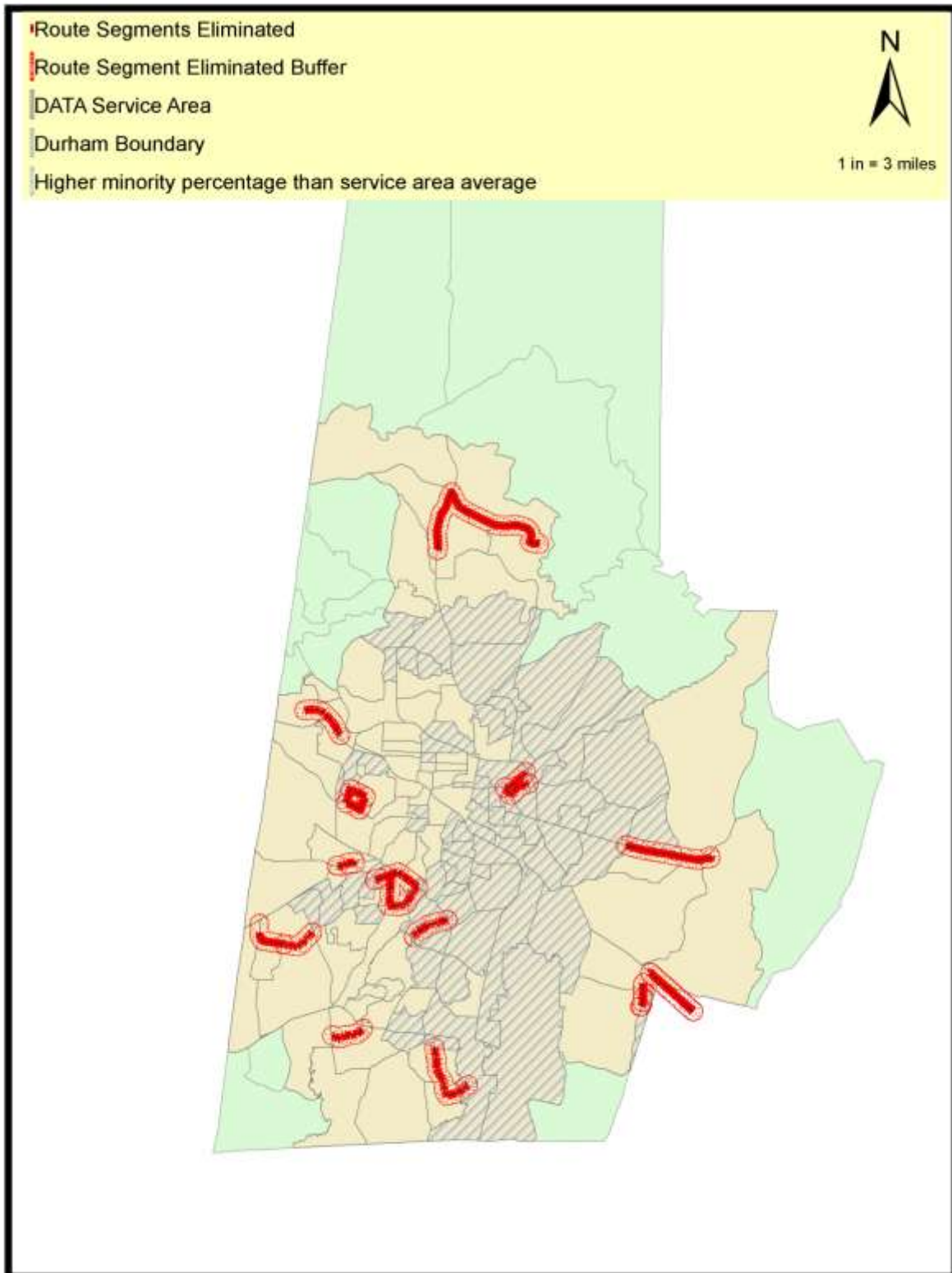




Figure 9: Increase frequency with a higher percentage of households under the poverty level

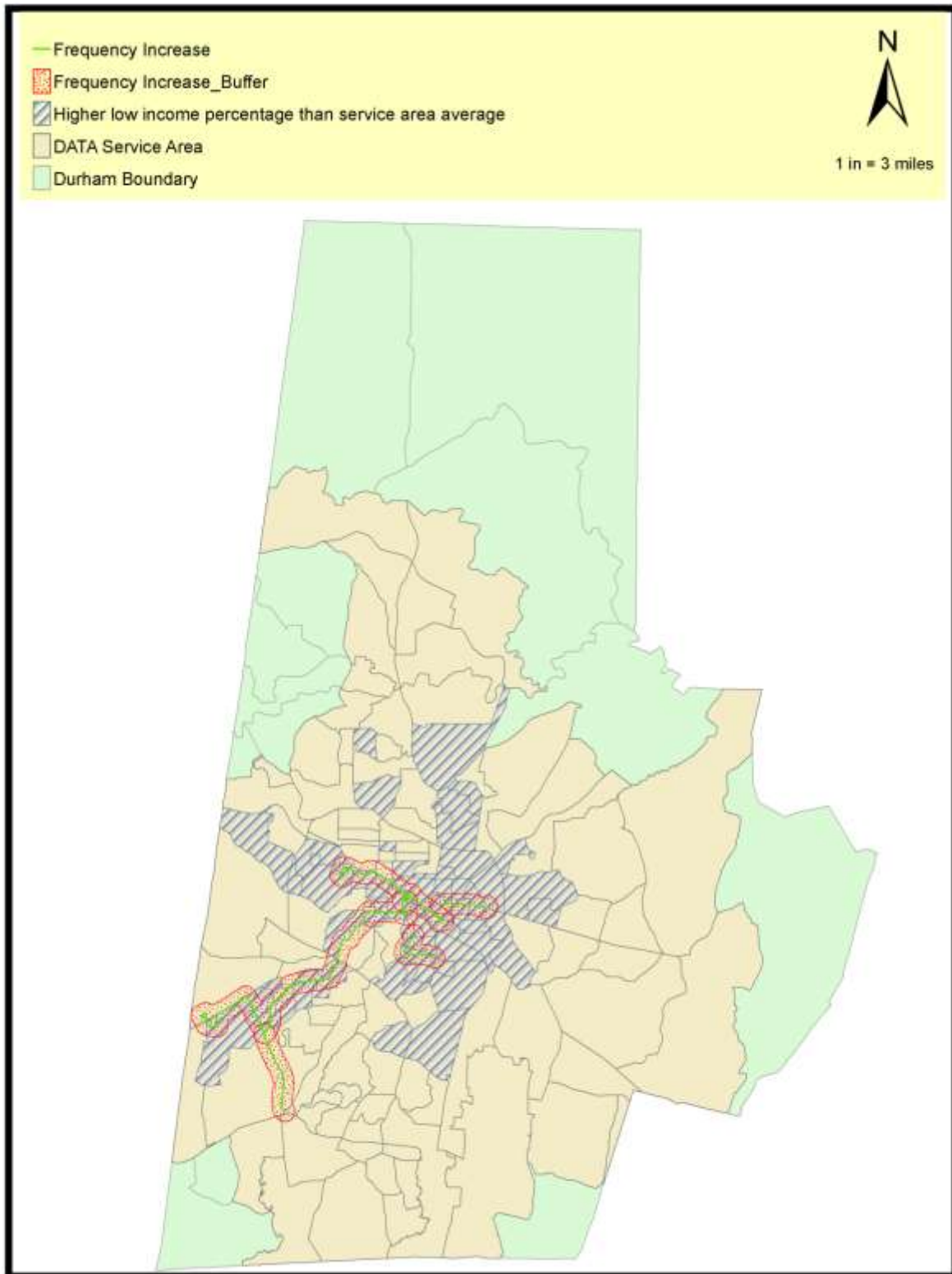


Figure 10: Increase frequency with a higher percentage of minorities

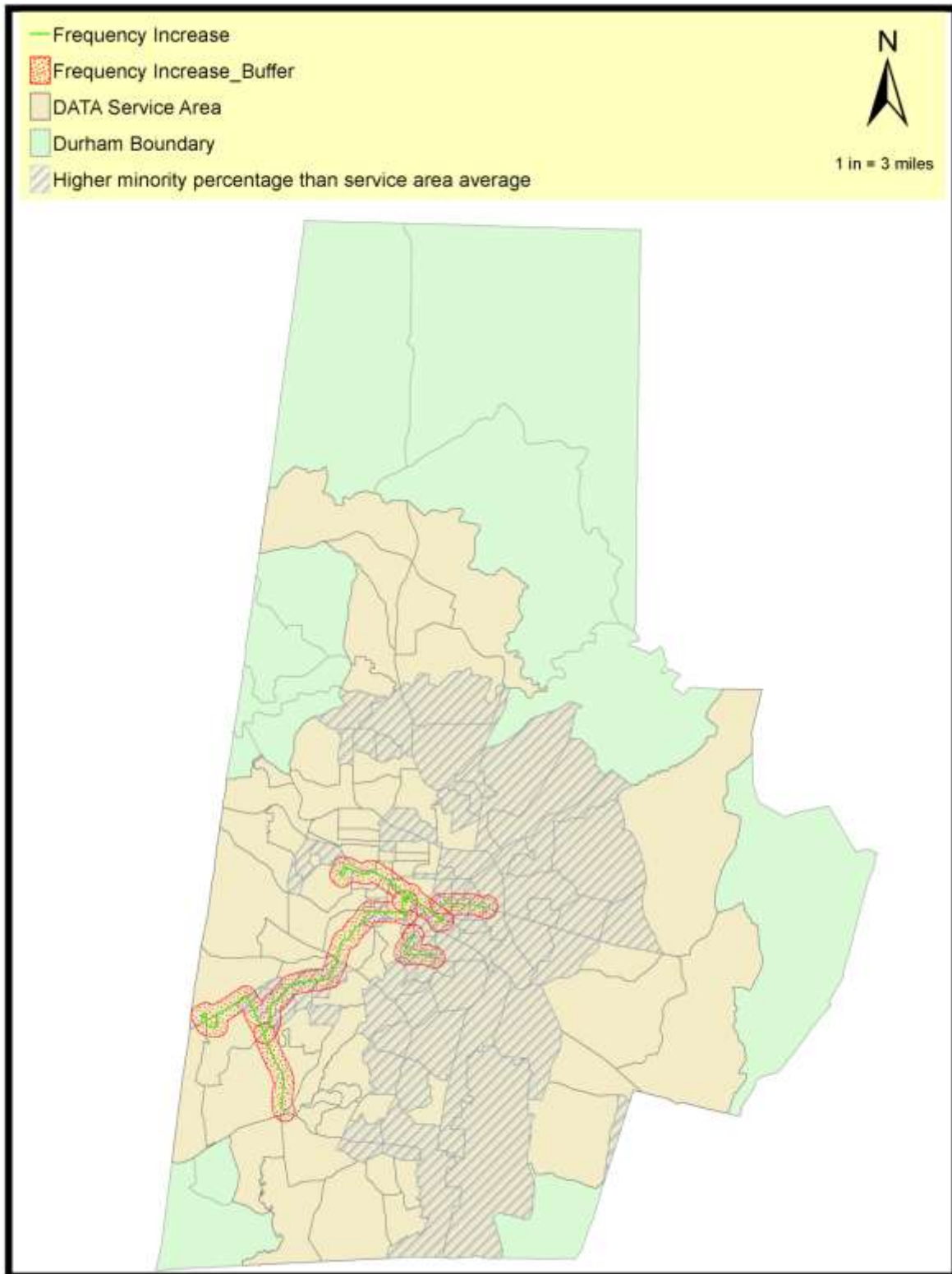


Figure 11: Decrease frequency with a higher percentage of households under the poverty level

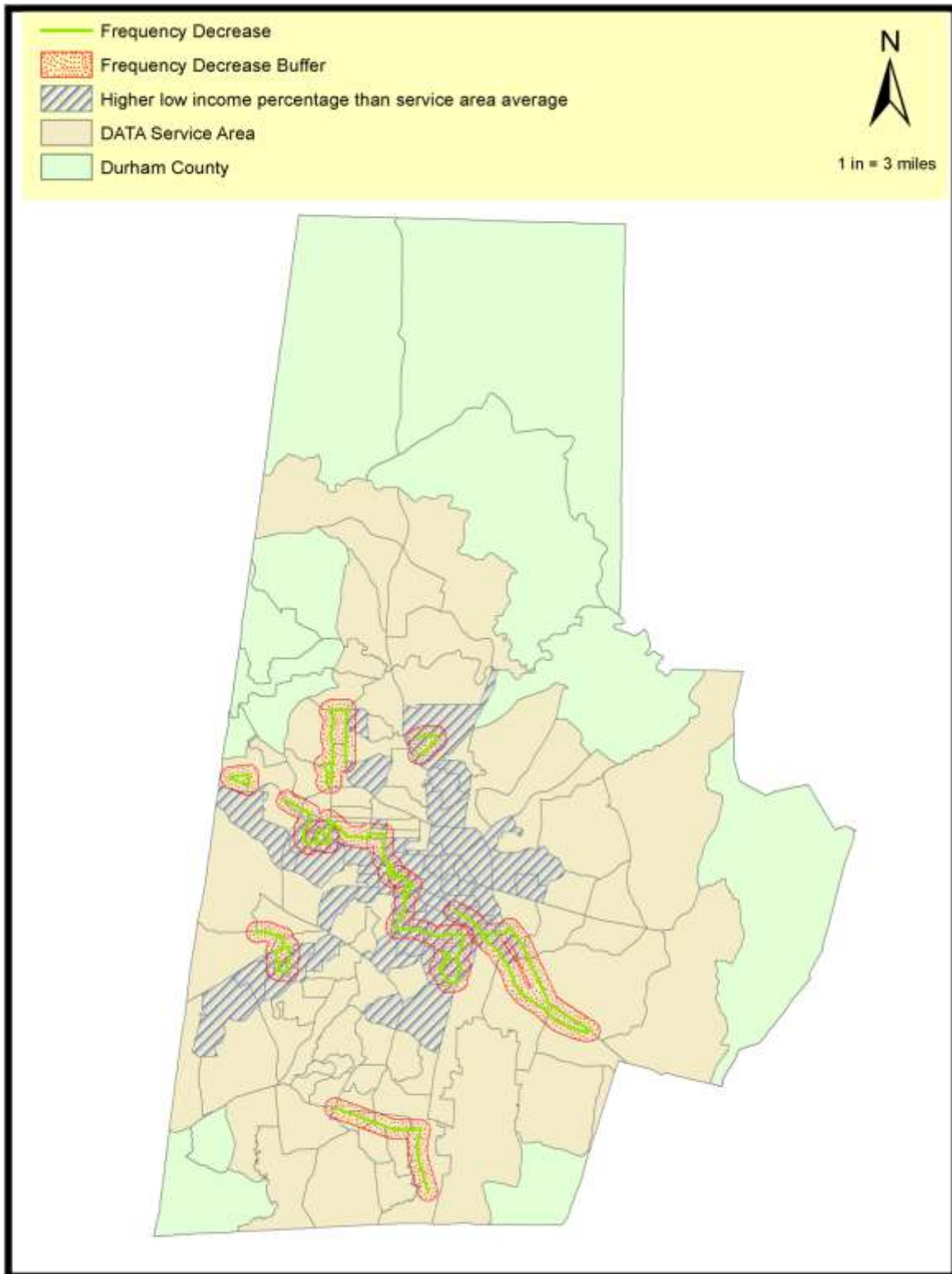




Figure 12: Decrease frequency with a higher percentage of minorities

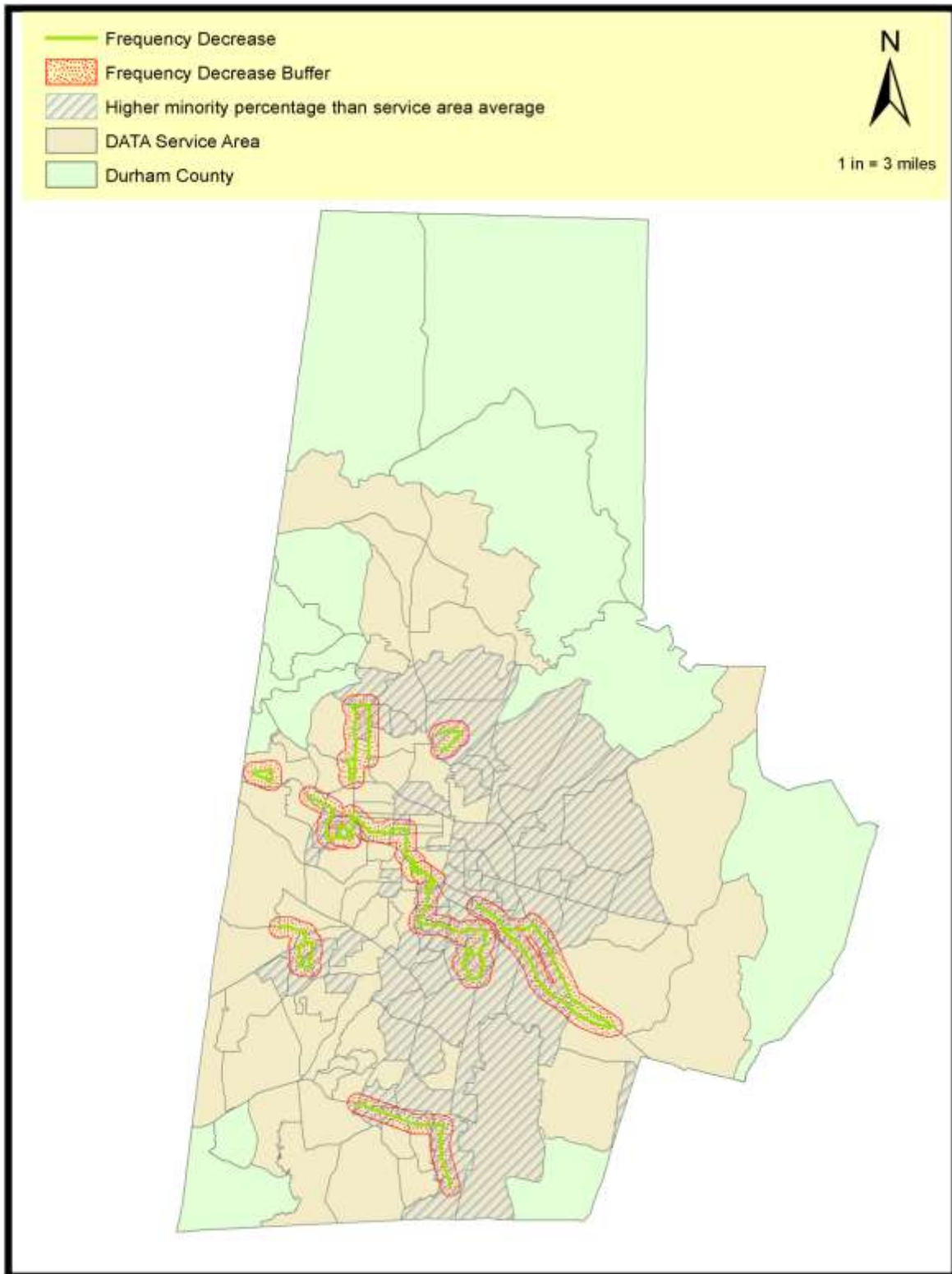


Figure 13: Increase span of service with a higher percentage of households under the poverty level

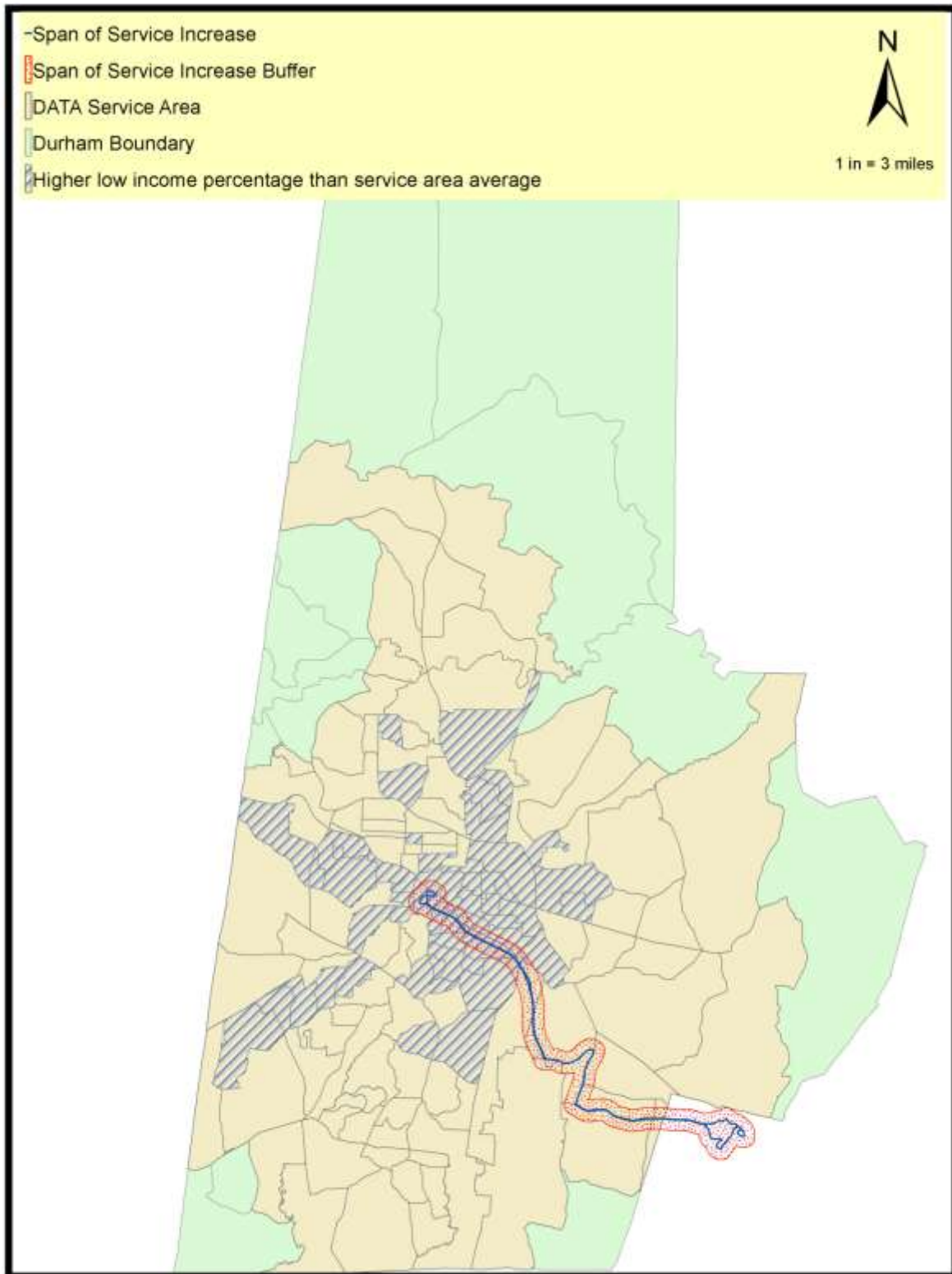


Figure 14: Increase span of service with a higher percentage of minorities

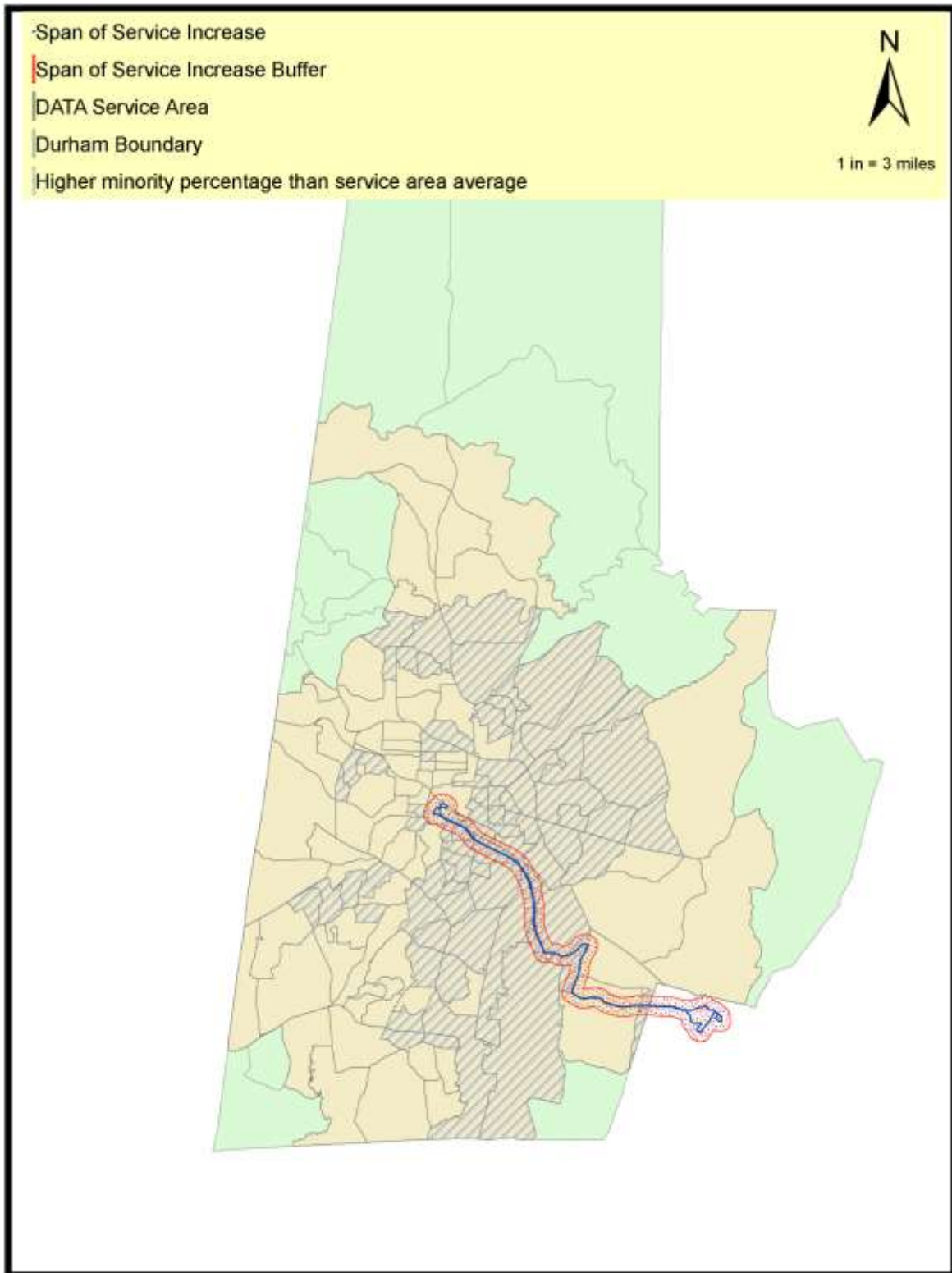


Figure 15: Decrease span of service with a higher percentage of households under the poverty level

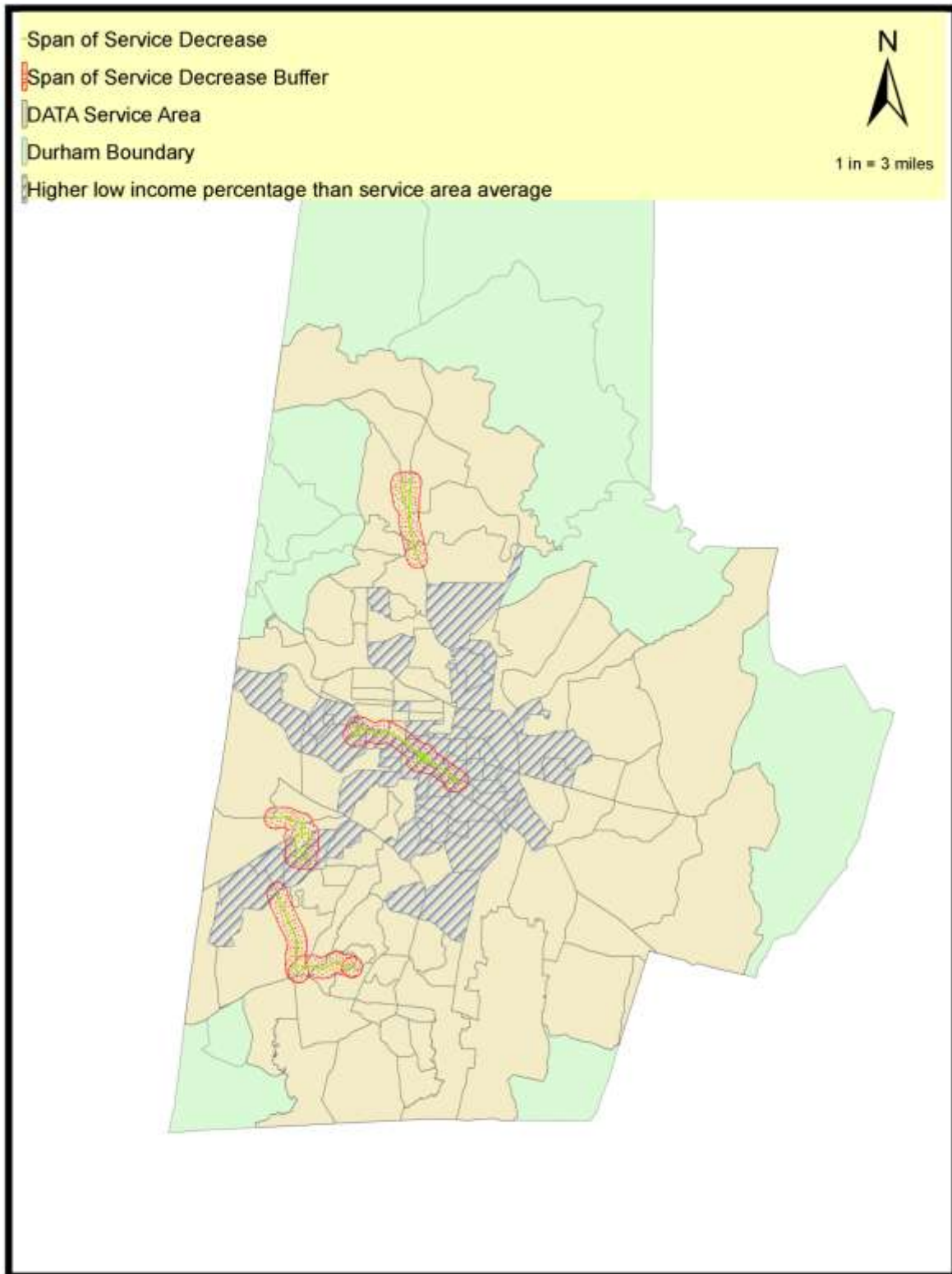
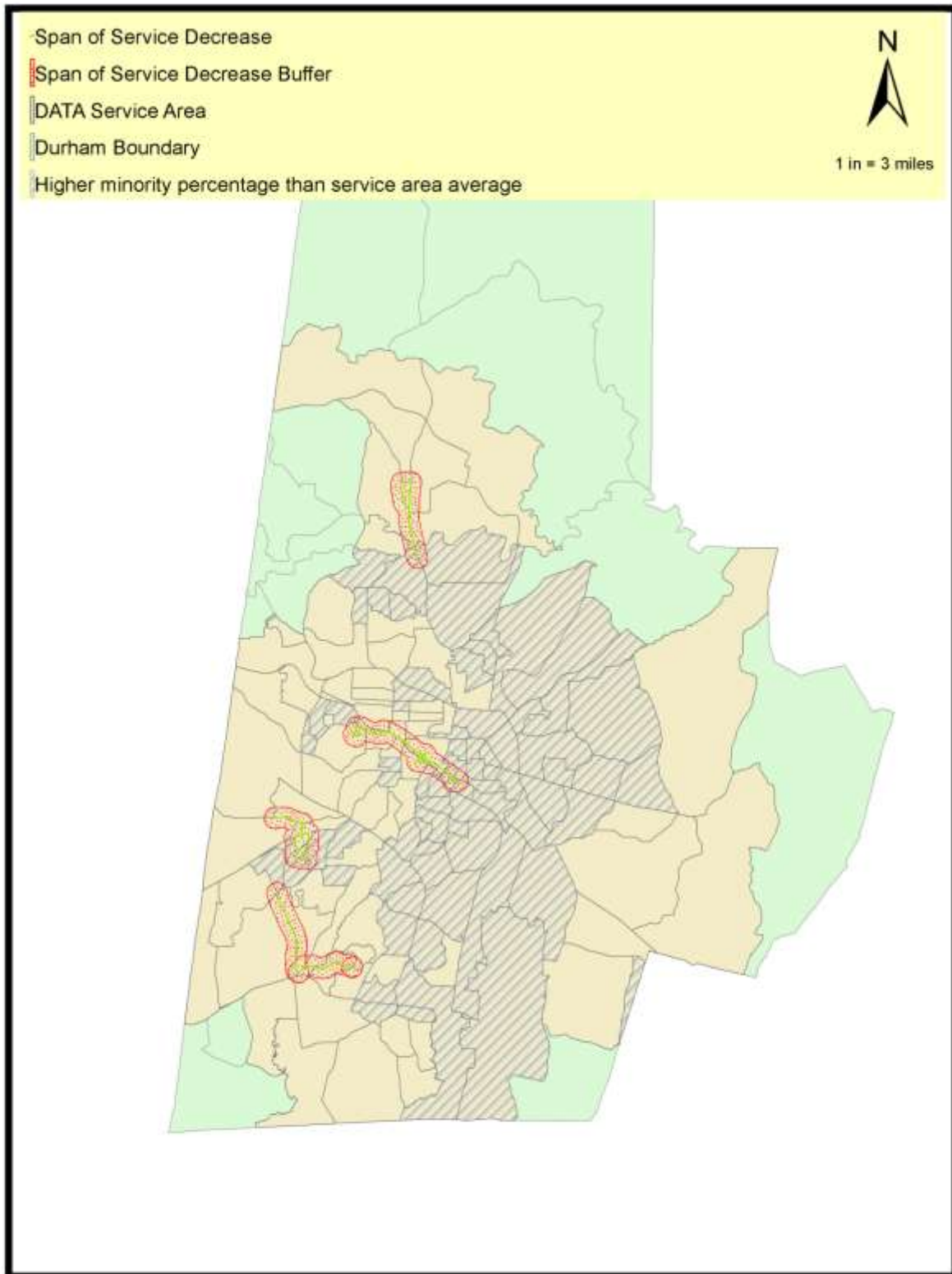


Figure 16: Decrease span of service with a higher percentage of minorities





### Determination of disparate impact to low-income and minority populations

For each type of service change, we calculated the average minority and low income population for each of the affected block groups on the system level. Using the criteria defined above, we identified four types of service changes that have a disparate impact on low income households and minorities. Low income households have a disparate impact for the segments where route segments are being added, segments where route frequency is being decreased, and segments where the span of service is being decreased. A disparate impact to minorities was identified for the route segments where frequency reductions will occur.

**Table 4: Determination of Disparate Impact**

Type of service change	% Minority Population			% Low Income Population		
	Service Area	Average of affected segments	Disparate Impact?	Service Area	Average of affected segments	Disparate Impact?
<b>Added route segments</b>	55%	56%	no	<b>17.7%</b>	<b>14%</b>	<b>YES</b>
<b>Eliminated route segments</b>	55%	45%	no	17.7%	14%	no
<b>Increase frequency</b>	55%	60%	no	17.7%	29%	no
<b>Decrease frequency</b>	<b>55%</b>	<b>57%</b>	<b>YES</b>	<b>17.7%</b>	<b>21.9%</b>	<b>YES</b>
<b>Increase span of service</b>	55%	66%	no	17.7%	31%	no
<b>Decrease span of service</b>	55%	48%	no	<b>17.7%</b>	<b>21.9%</b>	<b>YES</b>

### Travel Alternatives, Mitigation, and Conclusion

The decrease in frequency and decrease in service span are both service reductions, while adding route segments is a service improvement. We will look at each of the route segments that have service reductions and then discuss the service improvements on a system level.

First, we will look at percentage of households under the poverty level for the route segments where a decrease in frequency and decrease in service span is proposed. Of the 11 segments that have a proposed service reduction, 3 segments have a higher percentage of low income households than the DATA service area (17.7%). In this analysis, we will provide further discussion on these three segments.

**Table 5: Determination of Disparate Impact by Route Segment for Low Income Households**

Segment Description	How is it a disparate impact?	Percent Low Income Households
<b>Shirley St, Crest St, Douglas St</b>	Decrease frequency	53%
<b>Bull City Connector</b>	Decrease span of service	41%
<b>Ben Franklin Blvd and Carver St</b>	Decrease frequency	19%
<b>East End Ave, Hwy 70, Angier Ave</b>	Decrease frequency	16%
<b>Sparger Rd, Neal Rd, Bennett Pointe</b>	Decrease frequency	14%
<b>MLK Pkwy, Westgate Dr, Tower Blvd, Pickett Rd, and Shannon Rd</b>	Decrease frequency Decrease span of service	11%

<b>Hillandale Rd, Front St, Loehmann's Plaza, Willowdale Plaza</b>	Decrease frequency	9%
<b>NC 54 and NC 55</b>	Decrease frequency	7%
<b>Milton Rd, Tom Wilkinson Rd, Roxboro Rd</b>	Decrease span of service	7%
<b>Woodcroft Parkway</b>	Decrease span of service	4%
<b>Garrett Rd between Old Chapel Hill Rd and NC 751</b>	Decrease span of service	3%

Next, we will look at percentage of minorities in the route segments where a decrease in frequency is proposed. Of the 8 segments that have a proposed service reduction, 3 segments have a higher minority population than the DATA service area (55%). In this analysis, we will provide further discussion on these three segments.

**Figure 17: Determination of Disparate Impact by Route Segment for Minority Populations**

<b>Segment Description</b>	<b>How is it a disparate impact?</b>	<b>Percent Minority Population</b>
<b>Lawson St, Briggs Ave, Hearthside</b>	Decrease frequency	79%
<b>East End Ave, Hwy 70, Angier Ave</b>	Decrease frequency	70%
<b>Ben Franklin Blvd and Carver St</b>	Decrease frequency	66%
<b>Shirley St, Crest St, Douglas St</b>	Decrease frequency	54%
<b>NC 54 and NC 55</b>	Decrease frequency	51%
<b>Hillandale Rd, Front St, Loehmann's Plaza, Willowdale Plaza</b>	Decrease frequency	45%
<b>MLK Pkwy, Westgate Dr, Tower Blvd, Pickett Rd, and Shannon Rd</b>	Decrease frequency	38%
<b>Sparger Rd, Neal Rd, Bennett Pointe</b>	Decrease frequency	27%

For each of the segments that have been identified as having a disparate impact, we will discuss the travel alternatives that will be available to people along the affected route segments. We will also discuss the steps that Triangle Transit will take to mitigate, minimize, and offset the disparate impacts caused by the service change. Finally, we will offer a conclusion on the impacts of the service change on minority and low income individuals.

In summary, the following route segments will be discussed in further detail as well as the service improvement of adding service to new areas.

**Table 6: Summary of affected route segments**

<b>#</b>	<b>Route Segment Description</b>	<b>Type of service change</b>	<b>Low Income</b>	<b>Minority</b>
<b>1</b>	<b>Shirley St, Crest St, and Douglas St (current Route 6)</b>	Decrease frequency	Yes	
<b>2</b>	<b>Ben Franklin Blvd and Carver St (current Route 9)</b>	Decrease frequency	Yes	Yes
<b>3</b>	<b>Bull City Connector</b>	Decrease span of service	Yes	
<b>4</b>	<b>Route 8 (Saturdays)</b>	Decrease frequency		Yes
<b>5</b>	<b>East End Ave, Hwy 70, and Angier Ave (current Route 2)</b>	Decrease frequency		Yes

Shirley St, Crest St, Douglas St (current Route 6)

A disparate impact has been identified for this segment because it will have a decrease in the service frequency.

**TRAVEL ALTERNATIVES:** Crest St is currently served twice an hour in the outbound direction. The proposal is to have the bus go through this neighborhood once an hour in the outbound direction on Route 6A. Route 6B comes near the Crest St neighborhood, but serves the bus stops on Erwin Rd that are within a half mile to the neighborhood. The departure of Route 6B from Durham Station is staggered with the Route 6A, which goes through Crest St, so individuals who are able to walk to Erwin Rd will continue to have service every 30 minutes. In addition, within a half mile walk, there is bus service available every 30 minutes on Route 11 on Fulton St. Paratransit service is available to qualifying individuals in this neighborhood.

**MITIGATION:** Triangle Transit will produce and distribute new route brochures before the service change is implemented in January 2013. We will communicate with the DATA customers that route changes are happening by making information available on the DATA buses and at Durham Station prior to the service change. Paratransit service is provided throughout the City of Durham jurisdiction, so that service will be available to all eligible individuals who will no longer be able to get to their destinations. In addition, we are working with Durham County Human Services to communicate that the County human services transportation system is available to qualified individuals who are no longer able to get to their destination due to the service changes.

**CONCLUSION:** Triangle Transit is proposing this service change because it meets a substantial need that is in the public interest and the alternatives would have a more severe adverse effect.

The proposal to serve Crest St once an hour on Route 6A is tied to the proposal to have Route 6B serve Sparger Rd. Route 6A and 6B serve many of the same destinations, but have staggered departures from Durham Station. Route 11 currently provides service to Sparger Rd every 30 minutes, but is experiencing severe on-time performance problems. Only 48% of the arrivals to Durham Station are on-time for the Route 11. We are proposing to have the Route 6B serve Sparger Rd so that Route 11 can be shorter and thus improve its on-time performance. However, due to the length of Route 6B, we are unable to serve Crest St with Route 6B. The demand for bus service is currently low (1%-3% of the current Route 6 ridership) in the Crest St neighborhood and hourly service is sufficient to meet this demand.

**Table 7: Ridership on Route 6 and in Crest St Neighborhood**

	<b>On</b>	<b>Off</b>
<b>Route 6</b>	1431	1464
<b>Crest St Neighborhood</b>	15	41
<b>Percent of total ridership</b>	1%	3%

Source: APC August 2011-January 2012

Route 11 arrives on time (defined as before 5 minutes after the scheduled time) to Durham Station only 48% of the time (Source: APC Jan-March 2012). We estimate that the proposed change to Route 11 will



benefit approximately 500 customers a day (half of the 1,000 boardings along the proposed shortened route). Once Route 11 becomes more reliable, ridership also many increase, so the benefits may be greater.

We believe that the improvements in on-time performance to Route 11 are a benefit to the customers on that route, while still maintaining service to Crest St residents on Route 6A.

#### Ben Franklin Blvd and Carver St (current Route 9)

A disparate impact for minority and low income individuals has been identified for this segment because it will have a decrease in the frequency of bus service.

TRAVEL ALTERNATIVES: Carver St between Meriwether Dr and Ben Franklin Blvd is served every 30 minutes on the outbound trip only. Ben Franklin Blvd and Carver St between Danube Lane and Meriwether Dr are served every 30 minutes in the inbound direction only. The proposal is to serve these segments once an hour in both directions. While service is proposed to be provided less frequently, it is a service that is more direct and easier to understand because it is provided on the outbound and inbound trips. Service is provided on Roxboro St every 30 minutes on Route 4 and on Meriwether Dr every 30 minutes by either Route 9A or Route 9B. The minority and low income individuals who live along Carver St can access these bus stops within 1/3 mile. Ben Franklin Blvd is primarily medical office buildings. Paratransit service is available to qualifying individuals in this neighborhood.

MITIGATION: Triangle Transit will produce and distribute new route brochures before the service change is implemented in January 2013. We will communicate with the DATA customers that route changes are happening by making information available on the DATA buses and at Durham Station prior to the service change. Paratransit service is provided throughout the City of Durham jurisdiction, so that service will be available to all eligible individuals who will no longer be able to get to their destinations. In addition, we are working with Durham County Human Services to communicate that the County human services transportation system is available to qualified individuals who are no longer able to get to their destination due to the service changes.

CONCLUSION: Triangle Transit is proposing this service change because it meets a substantial need that is in the public interest and the alternatives would have a more severe adverse effect.

The proposal to serve Carver St and Ben Franklin Blvd once an hour in both directions is tied to the service change proposal for Route 17, which is located to the north and west of Ben Franklin Blvd and Carver St. The proposal is for the Route 9A and Route 9B to serve many of the destinations that are currently served by Route 17. In order for the Route 9A and Route 9B to efficiently provide service that is direct and bidirectional, the proposed routing for these two route deviations is necessary. In addition, the proposal also provides a direct connection from residential areas to two public high schools at Riverside High School (Route 9A) and Northern High School (Route 9B) without requiring students to transfer.

The following table shows the ridership on the segments that are proposed for hourly service on Route 9A and Route 9B that currently have service every 30 minutes in one direction only. The ridership shows that a small percentage of the total current Route 9 ridership will be affected. In addition, service every 30 minutes is provided within a third of a mile walk to Meriwether Dr (Route 9A or 9B) or Roxboro St (Route 4).

**Table 8: Ridership on Route 9 and Route 9A segments**

	<b>On</b>	<b>Off</b>	<b>Total</b>
<b>Route 9</b>	1439	1551	2988
<b>Segments on Route 9A only</b>	42	65	105
<b>Percent of total ridership</b>	3%	4%	4%

Source: APC March-April 2012

**Table 9: Ridership on Route 9 and Route 9B segments**

	<b>On</b>	<b>Off</b>	<b>Total</b>
<b>Route 9</b>	1439	1551	2988
<b>Segments on Route 9B only</b>	29	19	48
<b>Percent of total ridership</b>	2%	1%	2%

Source: APC March-April 2012

The alternative is to provide a service that is less direct on Route 9A or Route 9B. By implication, this service would increase travel times and travel distance. This would shorten the distance that the route could cover so that fewer destinations could be served. Another alternative is to leave the service as it currently is. The following benefits would not be felt by the customers of Route 9A and 9B: bidirectional service, better connection to Riverside High School, and eliminating the need for a transfer between Route 4 and Route 17 at Horton Rd.

### Bull City Connector

A disparate impact for low income individuals has been identified for the Bull City Connector (BCC) because it will have a decrease in the span of service. The BCC is proposed to end service 2 hours earlier on Monday through Thursday (10pm) and start one hour later on Saturdays (7:20am).

TRAVEL ALTERNATIVES: After 10pm and on Saturday morning, customers can take DATA Route 6A or Route 11 to get to Durham Station where they can transfer to other DATA routes. DATA Route 2 provides service to the east from Durham Station when the BCC is not in service.

MITIGATION: Triangle Transit will produce and distribute new route brochures before the service change is implemented in January 2013. We will communicate with the DATA customers that route changes are happening by making information available on the DATA buses and at Durham Station prior to the service change. Paratransit service is provided throughout the City of Durham jurisdiction, so that service will be available to all eligible individuals. In addition, we are working with Durham County Human Services to communicate that the County human services transportation system is available to qualified individuals who are no longer able to get to their destination due to the service changes.

**CONCLUSION:** Triangle Transit is proposing this service change because it meets a substantial need that is in the public interest and the alternatives would have a more severe adverse effect. During these times when we are proposing to reduce the service span, there is a very low demand for bus service. After 10pm, less than 3 passengers per trip use the route. Before 7:20am on Saturdays, less than 2 passengers per trip use the route. It is a better use of resources to not provide this service and apply the resources to other times of day.

East End Ave, Hwy 70, Angier Ave (current Route 2)

A disparate impact to minorities has been identified for this segment because it will have a decrease in the frequency of bus service.

**TRAVEL ALTERNATIVES:** Instead of the bus being available every 30 minutes, the bus will be available once an hour. Paratransit service is available to qualifying individuals living along this segment.

**MITIGATION:** Triangle Transit will produce and distribute new route brochures before the service change is implemented in January 2013. We will communicate with the DATA customers that route changes are happening by making information available on the DATA buses and at Durham Station prior to the service change. Paratransit service is provided throughout the City of Durham jurisdiction, so that service will be available to all eligible individuals. In addition, we are working with Durham County Human Services to communicate that the County human services transportation system is available to qualified individuals who are no longer able to get to their destination due to the service changes.

**CONCLUSION:** Triangle Transit is proposing this service change because it meets a substantial need that is in the public interest and the alternatives would have a more severe adverse effect.

The proposal to reduce the frequency of service on this segment of Route 2 is based on the ridership demand. The following two charts show that the average boardings per trip on the segments to the east of Main St and Alston Ave are very low. At 0 – 4 boardings per trip, hourly service is warranted. One of the goals of the Designing Better Bus Service project is to match service with the ridership demand. By reducing service frequency in areas that have low ridership, we can increase service in parts of the City that have overcrowding.

Figure 18: Route 2 Weekday Average Boardings per Trip – Outbound

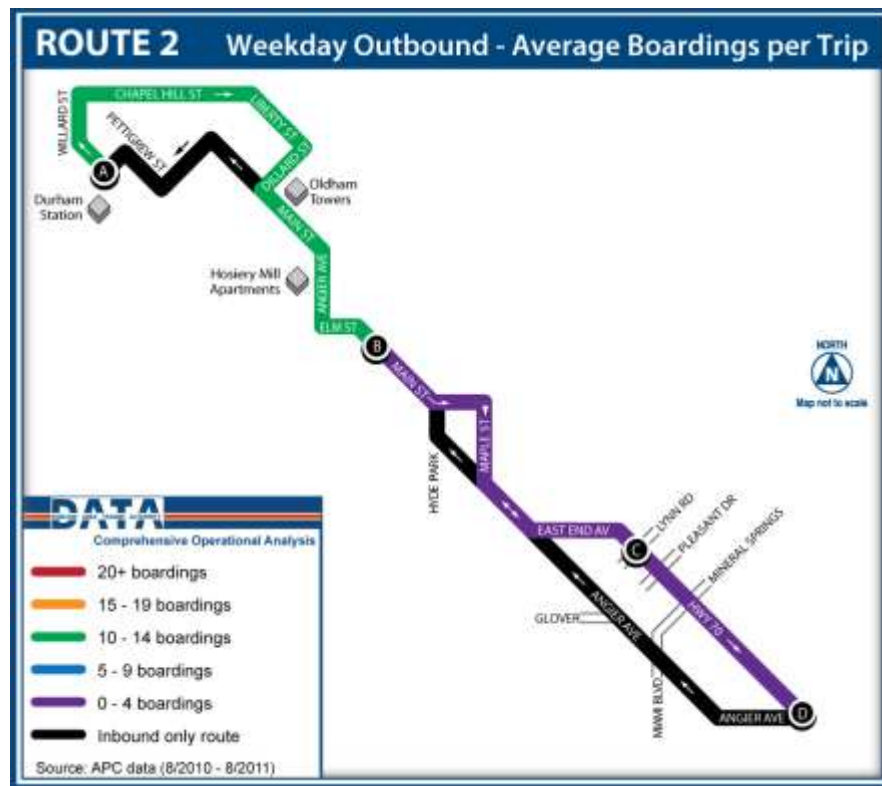
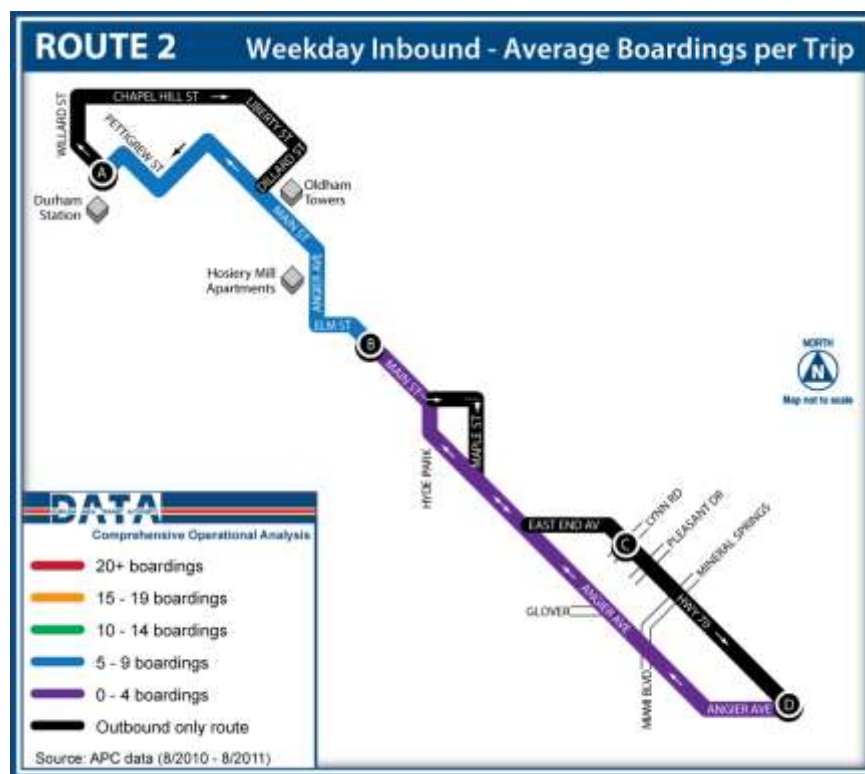


Figure 19: Route 2 Weekday Average Boardings per Trip – Inbound



In addition, this proposal is tied with the solution to address the on-time performance problems of the current Route 13, which serves North-east Central Durham (NECD), a predominately minority and low income neighborhood. A new Route 21 is proposed, which serves the same destinations as the Route 2 up to Angier Ave and Guthrie Ave and then some of the destinations on Route 13 in NECD. It provides service once an hour to a shopping destination and to downtown without requiring a transfer.

The alternative would be to continue to provide service every 30 minutes on this segment, which would not allow us to increase frequency in other parts of the City that need it. We also would not be able to address the late buses on Route 13.

### Route 8

A disparate impact to minorities has been identified for Route 8 because it will have a decrease in the frequency of bus service.

TRAVEL ALTERNATIVES: This service reduction is proposed for Saturdays only. Instead of the bus being available every 30 minutes, the bus will be available once an hour. Triangle Transit Route 700 provides hourly service along Lawson St between Briggs Ave and Alston Ave. Route 12 provides hourly service along Alston Ave as well. Paratransit service is available to qualifying individuals living along this segment.

MITIGATION: Triangle Transit will look into the option of staggering the departure of the Route 8 on weekends so that it arrives at Durham Station at the half hour. This will allow customers along Lawson St near Durham Tech to get to Durham Station on either Triangle Transit or DATA every 30 minutes.

Triangle Transit will produce and distribute new route brochures before the service change is implemented in January 2013. We will communicate with the DATA customers that route changes are happening by making information available on the DATA buses and at Durham Station prior to the service change. Paratransit service is provided throughout the City of Durham jurisdiction, so that service will be available to all eligible individuals. In addition, we are working with Durham County Human Services to communicate that the County human services transportation system is available to qualified individuals who are no longer able to get to their destination due to the service changes.

CONCLUSION: Triangle Transit is proposing this service change because it meets a substantial need that is in the public interest and the alternatives would have a more severe adverse effect.

The productivity of Route 8 is much less on Saturdays than it is on weekdays. During the week, it ranked fifth in terms of passengers per hour, but on Saturdays, it is ranked eleventh out of seventeen. We looked at the maximum passenger load per trip for the Route 8 on Saturdays to see if there would be an issue with overcrowding if the route frequency were to be reduced from every 30 minutes to every 60 minutes before 7pm. We did not identify that there would be an issue.

As an aside, we also looked at reducing the frequency of the Routes 6, 9, and 11 on Saturdays because they have similar levels of productivity. The max passenger loads on Route 6 and Route 9 indicated that

there would be overcrowding if we reduced service. We are proposing to have hourly service on Route 11 as well as Route 8.

**Table 10: Ranked Passengers per Revenue Hour (PPH) by Day Type**

	<b>Weekday</b>		<b>Saturday</b>	
<b>Rank</b>	<b>Route</b>	<b>PPH</b>	<b>Route</b>	<b>PPH</b>
<b>1</b>	3	53.71	3	46.17
<b>2</b>	1	45.62	1	40.42
<b>3</b>	4	45.31	4	29.83
<b>4</b>	16	39.44	16	27.48
<b>5</b>	8	38.94	5	25.34
<b>6</b>	5	38.05	2	25.01
<b>7</b>	6	36.24	12	24.58
<b>8</b>	2	33.52	10	24.49
<b>9</b>	10	32.57	7	23.01
<b>10</b>	12	32.03	11	21.22
<b>11</b>	11	28.51	6	20.97
<b>12</b>	7	25.98	8	20.94
<b>13</b>	9	25.91	9	19.38
<b>14</b>	BCC	24.67	BCC	18.02
<b>15</b>	17	16.38	13	12.64
<b>16</b>	13	16.31	17	11.36
<b>17</b>	15	10.83	15	7.51
<b>18</b>	12B*	4.61	12B*	-
<b>19</b>	16B	4.01	16B	-

Source: APC Aug 2010-Aug 2011

**Table 11: Route 8 Average Maximum Passenger Load by Time of Day**

	<b>Outbound</b>	<b>Inbound</b>
<b>7a-12p</b>	6	11
<b>12p-7pm</b>	12	12
<b>7p-12a</b>	19	8

Source: APC January-March 2012

### Adding route segments

There are several route segments that are proposed to be added to the DATA system, which is considered to be a service improvement. It is a disparate impact to the low income population because the percentage of low income households in the areas where service is being added is lower than the service area average.

In this section, we will discuss how the other proposed service improvements will benefit low income populations.

All of the block groups within the City of Durham that have a higher percentage of low income households are served with the current DATA system and will continue to be served in the proposed system. While the new route additions occur in higher income areas than the current DATA system, the proposed system would still provide service to each of the 54 low income block groups within the City of Durham.

We are proposing to add service to Riverside High School, provide better connections between routes to allow customers to avoid travelling downtown, and address on-time performance of the current system. Other segments where route additions are proposed address operational issues.

When looking at the other proposed service improvements as part of Designing Better Bus Service in Durham, the proposed service changes occur in more low income and minority block groups. For both types of service improvements, the number of block groups where the improvements occur are greater in the higher minority areas and higher low income areas. This demonstrates that while the new route segments are being added to areas that are higher income, the DBBS proposed service changes will benefit many minority and low income individuals.

**Table 12: Where the Service Improvements are located in Durham**

	<b>High minority block groups</b>	<b>Non-minority block groups</b>	<b>High low income block groups</b>	<b>Non-low income block groups</b>
<b>Increase in Frequency</b>	25 out of 71	20 out of 69	33 out of 54	13 out of 86
<b>Increase in Span of Service</b>	14 out of 71	5 out of 69	12 out of 54	7 out of 86